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TRANSMITTAL FORM

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First Named Inventor	Stephen F. Gass
Art Unit	3724
Examiner Name	Ghassem Alie
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ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
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- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
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- ☑ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SD3, LLC		
Signature	David A. Fanning		
Printed name	David A. Fanning		
Date	July 14, 2006	Reg. No.	33,233

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Signature	David A. Fanning		
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
STEPHEN F. GASS and DAVID S. D'ASCENZO

Date: July 14, 2006

Serial No.: 09/929,227

Examiner Ghassem Alie

Filed: August 13, 2001

Group Art Unit 3724

For: SPRING-BIASED BRAKE MECHANISM FOR POWER EQUIPMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY BRIEF

1. Real party in interest.

The real party in interest is identified in the Appeal Brief.

2. Related appeals and interferences.

An update of the prior and pending appeals listed in the Appeal Brief follows:

1. Appeal of application serial number 09/929,238 (fully briefed).
2. Appeal of application serial number 09/929,242 (fully briefed).
3. Appeal of application serial number 10/053,390 (appeal brief and examiner's answer filed, reply brief due August 16, 2006).
4. Appeal of application serial number 10/100,211 (fully briefed).
5. Appeal of application serial number 10/189,027 (appeal brief filed, awaiting examiner's answer).
6. Appeal of application serial number 11/098,984 (appeal brief due August 30, 2006).

Applicant has also filed appeals in applications 09/929,221, 09/929,240, 09/929,425, 09/929,426, 10/189,031, 10/243,042 and 10/292,607, but those

applications have either been allowed or prosecution has been reopened, so the appeals are no longer pending. Applicant identifies these prior appeals because the applications involved may be related to the present application.

3. Status of claims.

The statement of the status of the claims is in the Appeal Brief.

4. Status of amendments.

All amendments have been entered.

5. Summary of claimed subject matter.

The claimed subject matter is summarized in the Appeal Brief.

6. Grounds of rejection to be reviewed on appeal.

Applicant notes that the examiner did not continue the rejection of claim 19 on the ground of obviousness-type double patenting, and therefore, that rejection has been withdrawn. The remaining grounds of rejection presented for review are set forth in the Appeal Brief.

7. Argument.

I. Claim 1.

Applicant believes the obviousness rejection of claim 1 should be reversed because 1) Friemann fails to enable a brake actuated within 3 or 5 milliseconds, 2) the 3 millisecond limitation is more than a result-effective variable, 3) the cited references fail to disclose all claim limitations, and 4) there is no suggestion to combine the references. The examiner's responses to these issues are addressed below.

1. Friemann fails to enable a brake actuated within 3 or 5 milliseconds.

The examiner and applicant disagree as to whether Friemann enables an actuator having stored energy sufficient to move a brake component from a ready position into engagement with the cutting tool within approximately 3 milliseconds or less after a dangerous condition is detected. The examiner says the Friemann reference enables such an actuator because it includes the following statement: "Experiments have shown that with a protective circuit arrangement in accordance with the invention it is possible for a band cutter to be stopped in about 1/200th second ...." (Examiner's Answer, 8, quoting Friemann, column 2, lines 15-18.)[1] Applicant, on the other hand, says Friemann fails to enable such an actuator because mathematical calculations applying the laws of physics prove that Friemann's band cutter cannot stop within 5 milliseconds, as explained in the declaration of Dr. David A. Turcic.

The examiner says Dr. Turcic's declaration is unpersuasive because it "does not provide tests or experiments that prove that the brake mechanism in Yoneda, as modified by Friemann, is not capable of stopping the band cutter within 3 milliseconds." (Examiner's Answer, 8.) That is incorrect. The mathematical calculations set forth by Dr. Turcic constitute a test that proves Friemann's band cutter cannot stop within 5 milliseconds. There would have to be mistakes in Dr. Turcic's calculations in order for Friemann to enable a system adapted to stop a band cutter within 5 milliseconds, but no mistakes have been identified. In fact, the calculations have not been rebutted at all, so they should be accepted as true. At the very least, the calculations outweigh the

[1] Friemann did not disclose what the "experiments" were, how they were conducted, or what results were measured. In fact, Friemann did not discuss the "experiments" at all. Friemann simply said experiments have shown that "it is possible" to stop a band cutter within 5 milliseconds; he did not say his machine actually achieved that goal.

unsupported statement in Friemann, and as a result, a preponderance of evidence supports the conclusion that Friemann does not enable an actuator as recited in applicant's claim 1.

The examiner identified several small relays that purportedly operate within 1 millisecond to rebut Dr. Turcic's statement that Friemann's system cannot stop the band cutter within 5 milliseconds because motor control relays take longer to operate. The problem with the examiner's argument, however, is that the relays he identified are designed for specific applications and cannot be used to switch power to motors or electromagnetic brakes. Specifically, Marston (US Patent 3,975,600) discloses relays used in a telephone line splicing apparatus. Chow (US Patent 5,453,903) discloses a protective relay apparatus for providing a trip signal to a circuit breaker on a power line when a fault is detected. Gluck (US Patent 2,957,166) discloses switching devices for use in electronic data processing and communication systems. Mason (US Patent 2,883,486) discloses piezoelectric relays. Swift (US Patent 2,452,589) discloses electric remote control systems used in electrical supply undertakings to indicate the condition of equipment at, for example, a substation. Thomas (US Patent 2,402,232) discloses a telephone system. Larger relays are required to switch power, and larger relays conservatively take 5 to 15 milliseconds to operate, as explained by Dr. Turcic. (Turcic Declaration, paragraph 10.)

The examiner also criticized applicant's claims by saying they include functional statements without structure. For example, the examiner said: "The instant claims do not set forth any specific structure capable of facilitating braking within 3 milliseconds. Therefore, there is insufficient structure to support this functional recitation in such way

it defines itself over the prior art." (Examiner's Answer, 9-10.) The examiner's statement mischaracterizes applicant's claims. The brake component and actuator are both structural components. The fact that these components are further described with functional language does not mean that they are non-structural. Even if these limitations were considered solely functional limitations, then the examiner's criticism still would be improper because functional language is clearly permissible in patent claims. See, e.g., Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 39 USPQ2d 1783 (Fed. Cir. 1996); In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976); In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971); see also MPEP 2173.05(g) ("A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used."). In the case at hand, the existence of functional language in applicant's claim 1 does not change the requirement that Friemann must enable an actuator as recited in the claim to support the obviousness rejection. It does not, and therefore, the obviousness rejection should be reversed.

Even if Friemann enabled a system capable of stopping a band cutter within 5 milliseconds, it still fails to enable an actuator having stored energy sufficient to move the brake component into engagement with the cutting tool within approximately 3 milliseconds. The examiner responded to this point by saying advances in technology could be used to enhance Friemann's system so that it stops a band cutter in 3 milliseconds. (Examiner's Answer, 10.) The examiner did not identify any specific advances in technology that could be used to enhance Friemann's system, and he did not cite any reference supporting his conclusion. He simply said Friemann could be

enhanced. Such unsupported speculation should not be used in an obviousness rejection.

2. The 3 millisecond limitation is more than a result-effective variable.

Applicant explained in the Appeal Brief that the 3 millisecond limitation is more than a result-effective variable having an optimum value. The examiner did not respond to this issue; he simply said that "it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art." (Examiner's Answer, 9.) The examiner did not offer any support or reasoning for his statement.

3. The cited references fail to disclose all claim limitations.

Applicant explained that Yoneda and Andreasson fail to disclose an actuator having stored energy. The examiner, however, said the "electro-mechanical brake in Yoneda can also be powered by a capacitor, as taught by Andreasson." (Examiner's Answer, 10.) Applicant disagrees because electro-mechanical brakes are powered by continuous electric current through wire coils and the examiner failed to identify any reference or teaching showing how an electro-mechanical brake could be powered by a capacitor. Nevertheless, even if capacitors could provide sufficient and continuous current, electro-mechanical brakes as disclosed in Yoneda still take longer than 3 milliseconds to operate, as explained in paragraph 21 of Dr. Turcic's declaration.

4. There is no suggestion to combine the references.

The only motivation proffered by the examiner to combine the references was "to prevent injury to the user." (Examiner's Answer, 5.) This is a legally insufficient motivation to combine the references because it is simply a rote invocation of the desire for safer products, as explained in the Appeal Brief on pages 14-19. The examiner did not respond to this point.

II. Claim 19.

The examiner did not separately address applicant's comments concerning claim 19.

III. Claim 31.

The examiner did not separately address applicant's comments concerning claim 31.

IV. Claims 3 and 4.

The examiner did not address applicant's comments concerning claims 3 and 4, including applicant's argument that Baur and Bielinski are non-analgous and that Bielinski fails to show a housing.

8. Claims appendix.

The claims are set forth in the Appeal Brief.

9. Evidence appendix.

Identified in the Appeal Brief.

10. Related proceedings appendix.

None.

Respectfully submitted,
SD3, LLC

David A. Fanning, Esq.
Registration No. 33,233
Customer No. 27630
25977 S.W. Canyon Creek Road, Suite G
Wilsonville, Oregon 97070
Telephone: (503) 570-3200
Facsimile: (503) 570-3303

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Date: July 14, 2006

David A. Fanning